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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/557,666	12/13/2005	Johan Lindstrom	P/1228-204	2143
2352 7590 12/17/2007 OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			EXAMINER ZHANG, JUE	
			ART UNIT 2838	PAPER NUMBER
			MAIL DATE 12/17/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/557,666	Applicant(s) LINDSTROM, JOHAN	
	Examiner Jue Zhang	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 6, 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office action is in answer to the response filed on 09/20/2007. Claims 1-19 are pending, of which all original claim 1- 5, 7-14, 17-18 are amended, claims 6, 15-16 are canceled and claims 19-20 are newly added by the present amendment.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5, 7-10, 12-14, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Rouillard et al. (US Patent No. 5952815, hereinafter '815).

Claims 1, 10, '815 teaches an arrangement for storing electrical energy and a method of charging a plurality of electrical storage modules connected in series between a first terminal and a second terminal (see col. 19, line 52-col. 20 line 17; col. 21 line 40-col. 22 line 12) (Fig. 31, 35) comprising:

an electric charge source (e.g., charger) between a first terminal and a second terminal (Fig. 31), a plurality of electrical storage modules connected in series between the first terminal and the second terminal, each electrical storage module of the plurality of electrical storage modules having a respective nominal module voltage (Fig. 31);

a DC-to-DC converter (Fig. 31) coupled to the electric charge source and to each of the electrical storage modules, the DC-to-DC converter being operable to receive incoming power from the electric charge source and to supply a respective voltage fraction of the DC-system voltage to each electrical storage module,

wherein the DC-to-DC converter is further operable to control the respective voltage fraction to vary the respective voltage fraction over a time period within a voltage interval around the respective nominal module voltage of each electrical storage module such that during the time period the respective voltage fraction supplied to each electrical storage module is set to be higher than the respective nominal module voltage of each electrical storage module (see col. 19, line 52-col. 20 line 17; col. 21 line 40-col. 22 line 12)(Fig. 35).

For claims 3, 12, '815 teaches the limitation of claims 1, 10 as discussed above. '815 further teaches that the DC-to-DC converter is operable to control the respective voltage fraction over the electrical storage modules such that an average time interval during which the voltage fraction exceeds the nominal module voltage is substantially equal with respect to all the modules (e.g., each module is made up by the same type individual component, therefore the behalf of each module over time are statistically substantially identical) (see col. 19, line 52-col. 20 line 17; col. 21 line 40-col. 22 line 12)(Fig. 31, 35).

For claim 4, '815 teaches the limitation of claim 1 as discussed above. '815 further teaches that the DC-to-DC converter is operable to control the respective voltage fraction over the electrical storage modules such that an average voltage fraction of the DC-system voltage being distributed to each module is substantially equally large for all the modules (see col. 19, line 52-col. 20 line 17; col. 21 line 40-col. 22 line 12)(Fig. 35).

For claim 5, '815 teaches the limitation of claim 1 as discussed above. '815 further teaches that at least two of the electrical storage modules are included in a common battery unit, the unit having a separate set of access points for each module, and each of the access points is coupled to the DC-to-DC converter (Fig. 31).

For claim 14, '815 teaches the limitation of claims 5, 10 as discussed above. '815 further teaches that there are two of electrical storage modules (e.g., the first two modules)(Fig. 31).

For claim 7, '815 teaches the limitation of claim 1 as discussed above. '815 further teaches that the electrical storage modules are operable to provide power to an electrical system of a vehicle via the first and second terminals (i.e., the electrical storage modules is capable to be used to power an electric vehicle)(col. 1, lines 19-32).

For claim 8, 9, '815 teaches the limitation of claim 1 as discussed above. '815 further teaches that the electric charge source is an electric generator (i.e., the electric generator is inherently taught in order for the electrical storage modules used in the electric vehicle)(col. 1, lines 19-32).

For claim 19, please see the recitations in the discussion above for claims 1, 3-9 rejection.

For claims 17-18, 20, '815 teaches the limitation of claims 1, 10, and 19 as discussed above. '815 further teaches that the DC-to-DC converter is operable to control the respective voltage fraction such that when the respective voltage fraction is varied to be above the respective nominal module voltage, another respective voltage fraction is varied to be below the respective nominal module voltage for another respective module (i.e., if one of the module voltage is varies to be above the respective nominal module voltage, another respective voltage fraction would be inherently varied to be below the respective nominal module voltage for

another respective module since the total charging voltage equals to the sum of the voltage of all modules)(see col. 19, line 52-col. 20 line 17; col. 21 line 40-col. 22 line 12)(Fig. 31, 35).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rouillard et al. (US Patent No. 5952815, hereinafter '815).

Claims 2 and 11, '815 teaches the limitations of 1 as discussed above. '815 does not explicitly teach that the voltage interval represents a voltage variation of less than 25% of any of the nominal module voltages. However, since applicant did not disclose any particular reasons for choosing the voltage variation of less than 25%, it would apparently be a design choice for choosing a value for the range of the voltage interval. And it has been held that the discovery of the optimum value of a result effective variable in a known process is ordinarily within the skill in the art. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980).

Response to Arguments

Applicants' arguments filed 9/20/2007 have been fully considered but are moot in view of the new ground of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PT0-892 and not mentioned above disclose related apparatus.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jue Zhang whose telephone number is 571-270-1263. The examiner can normally be reached on M-Th 7:30-5:00PM EST, Other F 7:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on 571-272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JZ


BAO Q. VU
PRIMARY EXAMINER